

WHAT IS CLAIMED IS:

1. An image forming apparatus including applications and system side software for providing
5 system side services to the applications, the image forming apparatus comprising:

an authentication module for displaying an authentication screen on an operation panel of the image forming apparatus, wherein the authentication
10 module allows the image forming apparatus to display a screen for using the image forming apparatus instead of the authentication screen if authentication data input from the authentication screen satisfies an authentication condition,

15 wherein the authentication module is provided in the image forming apparatus separately from the system side software.

20

2. The image forming apparatus as claimed in claim 1, wherein the system side software includes an authentication function part, and

25 wherein, when a specific application is

selected by a user, the image forming apparatus refers to information indicating correspondences between each application and the authentication module or the authentication function part, and performs

5 authentication by using the authentication module or the authentication function part that corresponds to the specific application.

10

3. The image forming apparatus as claimed in claim 1, the image forming apparatus further comprising a part for executing the authentication module from an external recording medium, or a part for loading the authentication module into the image forming apparatus from the external recording medium and executing the authentication module.

20

4. The image forming apparatus as claimed in claim 1, the image forming apparatus further comprising an authentication module execution part for downloading

25

the authentication module from a server that is
connected to the image forming apparatus via a network,
and executing the authentication module.

5

5. The image forming apparatus as claimed in
claim 4, wherein the authentication module is a Java
10 program, and the authentication module execution part
includes a class library and a virtual machine.

15

6. The image forming apparatus as claimed in
claim 1, the image forming apparatus further comprising
a communication part used for performing wireless data
communications with a portable terminal,

20

wherein the authentication module performs
authentication by using authentication data received
from the portable terminal via the communication part.

25

7. The image forming apparatus as claimed in claim 6, the image forming apparatus further comprising a part for generating image data corresponding to a
5 screen for prompting for authentication data in the portable terminal, and sending the image data to the portable terminal.

10

8. The image forming apparatus as claimed in claim 1, wherein the authentication data includes a section name or a purpose of using an application.

15

9. The image forming apparatus as claimed in
20 claim 1, the image forming apparatus further comprising a part for displaying an authentication screen of the authentication module first when the image forming apparatus is started.

25

10. The image forming apparatus as claimed in
claim 1, wherein, if the image forming apparatus
5 detects an end of a job, system auto clear, or a key
input instructing to use the authentication module
while the image forming apparatus displays a screen
other than the authentication screen on the operation
panel, the image forming apparatus displays the
10 authentication screen instead of the screen other than
the authentication screen.

15

11. The image forming apparatus as claimed in
claim 10, wherein, if the image forming apparatus
detects elapse of a predetermined time after an end of
a job, the image forming apparatus launches the system
20 auto clear function and displays the authentication
screen.

25

12. The image forming apparatus as claimed in claim 1, the authentication module comprising a part for collecting log information relating to use of the image forming apparatus.

5

13. The image forming apparatus as claimed in claim 12, wherein the authentication module collects a print completion notification as the log information, and displays a warning on the operation panel when the number of sheets printed reaches a predetermined number.

15

14. An authentication method used for an image forming apparatus including applications and system side software for providing system side services to the applications, the image forming apparatus comprising an authentication module separately from the system side software,

wherein the authentication module displays an authentication screen on an operation panel of the

25

image forming apparatus, and allows the image forming
apparatus to display a screen for using the image
forming apparatus instead of the authentication screen
if authentication data input from the authentication
5 screen satisfies an authentication condition.

10 15. The authentication method as claimed in
claim 14, wherein the system side software includes an
authentication function part, and

wherein, when a specific application is
selected by a user, the image forming apparatus refers
15 to information indicating correspondences between each
application and the authentication module or the
authentication function part, and performs
authentication by using the authentication module or
the authentication function part that corresponds to
20 the specific application.

25 16. The authentication method as claimed in

claim 14, wherein the image forming apparatus executes
the authentication module from an external recording
medium, or the image forming apparatus loads the
authentication module from the external recording
5 medium and executes the authentication module.

10 17. The authentication method as claimed in
claim 14, wherein the image forming apparatus downloads
the authentication module from a server that is
connected to the image forming apparatus via a network,
and executes the authentication module.

15

18. The authentication method as claimed in
20 claim 14, the image forming apparatus further
comprising a communication part used for performing
wireless data communications with a portable terminal,
wherein the authentication module performs
authentication by using authentication data received
25 from the portable terminal via the communication part.

5 19. The authentication method as claimed in
claim 14, wherein, if the image forming apparatus
detects an end of a job, system auto clear, or a key
input instructing to use the authentication module
while the image forming apparatus displays a screen
10 other than the authentication screen on the operation
panel, the image forming apparatus displays the
authentication screen instead of the screen other than
the authentication screen.

15

 20. The authentication method as claimed in
claim 14, wherein the authentication module collects
20 log information relating to use of the image forming
apparatus.

25

21. A computer program to be executed on an image forming apparatus including applications and system side software for providing system side services to the applications, the computer program comprising:

5 program code means for displaying an authentication screen on an operation panel of the image forming apparatus;

 program code means for allowing the image forming apparatus to display a screen for using the
10 image forming apparatus instead of the authentication screen if authentication data input from the authentication screen satisfies an authentication condition,

 wherein the computer program is provided in
15 the image forming apparatus separately from the system side software.

20

22. The computer program as claimed in claim 21, the image forming apparatus further comprising a communication part used for performing wireless data communications with a portable terminal,

25 wherein the computer program comprises

program code means for performing authentication by
using authentication data received from the portable
terminal via the communication part.

5

23. The computer program as claimed in claim
21, the computer program comprising program code means
10 for collecting log information relating to use of the
image forming apparatus.

15

24. The computer program as claimed in claim
23, the computer program comprising program code means
for collecting a print completion notification as the
log information, and displaying a warning on the
20 operation panel when the number of sheets printed
reaches a predetermined number.

25

25. A computer readable medium storing a computer program to be executed on an image forming apparatus including applications and system side software for providing system side services to the applications, the computer program comprising:

program code means for displaying an authentication screen on an operation panel of the image forming apparatus;

program code means for allowing the image forming apparatus to display a screen for using the image forming apparatus instead of the authentication screen if authentication data input from the authentication screen satisfies an authentication condition,

wherein the computer program is provided in the image forming apparatus separately from the system side software.

20

26. The computer readable medium as claimed in claim 25, the image forming apparatus further comprising a communication part used for performing wireless data communications with a portable terminal,

wherein the computer program comprises
program code means for performing authentication by
using authentication data received from the portable
terminal via the communication part.

5

27. The computer readable medium as claimed
10 in claim 25, the computer program comprising program
code means for collecting log information relating to
use of the image forming apparatus.

15

28. The computer readable medium as claimed
in claim 27, the computer program comprising program
code means for collecting a print completion
20 notification as the log information, and displaying a
warning on the operation panel when the number of
sheets printed reaches a predetermined number.

25